
Sample Processing Scheme

- Initialize GCA Resources

- Create Query

PredicateClause "RangeQL"
OIDSet "List of Event IDs"

- Query Operations

Access Properties ---> doFullEstimate, doQuickEstimate

numFiles, numEvents, numSeconds

Modify Query ---> setPredicateClause, setOidList

Retrieve OIDset

Job Control ---> execute, abort, pause, resume

- Create Iterator ---> query

- Loop over Events ---> iterator

(Objectivity-to-Tables)

Analyze DST data
Analyze TagDB data
Analyze Both DST & TagDB data

Write Output

- Delete Query & Iterator

smqQueryI.idl

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Purpose: IDL description of the CORBA interface smqQueryI.
The QO is in user-client code to the StorageManager-QE-server.

```
#ifndef SMDEFS
#include "smDefs.idl" // various typedefs, enums and constants
#endif
//----- INTERFACE -----

interface smqQueryI { /* User-side view of query object. */

//----- ATTRIBUTES -----

readonly attribute string predicateClause;
readonly attribute unsigned long numFiles;
readonly attribute unsigned long numEvents;
readonly attribute unsigned long minNumEvents;
readonly attribute unsigned long maxNumEvents;
readonly attribute unsigned long numSeconds;
readonly attribute unsigned long numEventsCached;
readonly attribute unsigned long numEventsProcessed;
readonly attribute unsigned long numFilesCached;
readonly attribute float PercentComplete;
readonly attribute SMQ_STATE_T state;
readonly attribute SMQ_QUERY_TOKEN_T token;

//----- METHODS -----

boolean execute();
boolean abort();
boolean pause();
boolean resume();
boolean setPredicateClause(in string clause);
boolean getOidList(out SMQ_OIDSET_T list);
boolean setOidList(in SMQ_OIDSET_T list);
boolean doFullEstimate();
boolean doQuickEstimate();
};

};
```

```

#include <gcaResources.h>
#include <tagdbResources.h>

int gca_example(int Argc, char **Argv, amiInvoker myLittlePAM){

tdmTable *globTag;
tdmTable *table1;
TABLE_SEQ_T tbls;

GCA_Resources gcaResources(Argc, Argv);
TagdbResources tdbResources(Argc, Argv);
ooInit();

smqQueryI_ptr q101 = gcaResources.queryFactory()->newQuery(
    "q101",
    "(1000 < num_Pion_zero < 2000) & (~(N_Ev > 100))");

q101->execute();

SMQ_QUERY_TOKEN_T token = query->token();
OrderOptIterator *ooi101 = new OrderOptIterator(
    gcaResources.queryMonitor(), token);

d_Transaction transaction;
transaction.begin();
tdbResources.openDBs();

while ( ooi101->next(oid) ){
    tdmDataset *baseds = new tdmDataset(oid,q101);

    baseds->findTableEntry(globTag, "TagDB/globTag");
    baseds->findTableEntry(table1, "DST/funkyData");
    tbls._length=2; tbls._maximum=2;
    tbls._buffer[0]=globTag;
    tbls._buffer[1]=table1;
    myLittlePAM->call(tbls);

// WRITE OUT RESULTS

}

transaction.commit();

CORBA_release(query);

return 1;
}

```

MACRO GCA_EXAMPLE

GCA/INIT myFDboot

GCA/NEWQUERY

```
q101
"(1000 < num_Pion_zero < 2000) & (~(N_Ev > 100))"

GCA/QUERY/EXECUTE q101

GCA/NEWOOISTREAM ooi101 q101

STREAM/OPEN ooi101 R

WHILE TRUE
    STREAM/GETEVENT ooi101
    IF ( STAF_STATUS(1) .NE. STAFCV_OK ) THEN
        RETURN
    ENDIF

    MODULE/CALL myLittlePAM TagDB/globTag DST/funkyData

    ** WRITE OUT RESULTS

ENDDO

STREAM/CLOSE ooi101

OBJECT/DELETE q101 gcaQuery

RETURN
```